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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,320	02/28/2002	Joe Cargnelli	9351-95	1996

1059 7590 12/30/2003

BERESKIN AND PARR  
SCOTIA PLAZA  
40 KING STREET WEST-SUITE 4000 BOX 401  
TORONTO, ON M5H 3Y2  
CANADA

EXAMINER

FORD, JOHN K

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 12/30/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/084,320

Applicant(s)

Cargnelli et al.

Examiner

FORD

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10-1-03
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5, 7-16 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Newly submitted claims 14 - 16 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: fuel gas and oxidant gas have been made explicit parts of the recited combination. Applicant's original claims 1 - 9 only claimed, in their broadest reasonable reading, an apparatus for humidifying a process gas stream, not the combination of the apparatus and a process gas stream of a particular composition (i.e. fuel gas and oxidant gas) as now claimed in newly added claims 14 - 16

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-16 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable the combined teachings JP 5-256468 and Weitman.

JP'468 teaches a steam source 24 connected to a mixing chamber 20 for mixing the injected steam with incoming process gas from compressor 23. This highly saturated process gas is subsequently cooled below its dewpoint by cooler 25 and a separator 28 discharges condensate. A heater 31 subsequently is used to heat the

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process stream to a desired temperature. One additional refinement of JP'468 is the use of a humidity controller 30 (controlled by a dew-point instrument 29) downstream of the saturating cooler 25. In view of the teaching of Weitman, which shows a saturator followed by a reheater and which lacks the refinement discussed above (i.e. the use of a humidity controller 30 controlled by a dew-point instrument 29), it would have been obvious to have omitted the dew-point instrument 29 and controller 30 in JP '468 to attain a less expensive structure. In general the omission of an element and its associated function is not deemed to be patentable, In re Karlson, 136 USPQ 184.

Alternatively, to have replaced saturator unit 1 of Weitman with units 20, 24 and 25, 27 & 28 of JP'468, which perform the same function, would have been obvious to reduce the overall size of the saturation section, and advantageously permit high temperature saturation to take place.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Ebbing et al. (5,544,275) or Othmer (3,617,699).

Heaters for long delivery pipes where significant temperature map occur are well known to prevent the condensation of gas components. To have used either of the heaters of Ebbing or Othmer in the outlet line of the prior art to keep the outlet line from experiencing condensation would have been obvious.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 7 above, and further in view of Oswalt et al. (4,769,998),)

Oswalt teaches a combined heater / chiller to achieve particularly high levels of regulation. To have substituted this type of chilled fluid source in place of the chilled fluid sources shown in the prior art (i.e. element 27 in JP '468 or the unillustrated chilled fluid source connected to inlet 3 and outlet 4 of Weitman) would have been obvious to one of ordinary skill.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of JP 9-35737.

To have duplicated the system of claim 1 for as many process gas streams as desired would have been obvious to one of ordinary skill in the art. In the case of fuel cells it is known to have two humidifiers, one for the oxidizing gas (i.e. 2A of JP 9-35737) and one for the fuel gas (i.e. 2A of JP 9-35737) and one for the fuel gas (i.e. 2B of JP 9-35737). To have used two of the systems of the rejection of claim 1 to condition fuel gas and oxidizer in a fuel cell would have been obvious from the teaching of JP 9-35737 since it is apparently necessary to insure optimal operational efficiency.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 10 above, and further in view of Gunter USP 3,671,273.

Gunter teaches a shut-off valve (71), trap (74 or 68), pressure regulator 96 and non-return valve 64 as conventional components of a steam handling system. To have added such components to the steam source of the prior art to regulate it in a conventional manner would have been obvious to permit the operator to controllably operate the steam source.

Regarding claim 12 to have duplicated the shut-off valve (71), pressure regulator (96) and non-return valve (64) for each of the humidifiers for the fuel gas and oxidizer of the full cell would have been obvious from the teaching of JP 9-35737 which shows separate humidifiers for each of the fuel gas and oxidizer streams.

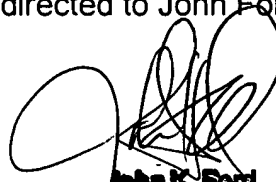
Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 10, 11 or 12 above, and further in view of Oswalt et al.

Oswalt teaches a combination heater / cooler to achieve high levels of temperature regulation. To have duplicated Oswalt's system for each of the fuel gas and oxidizer humidifiers discussed above would have been obvious to improve temperature and humidity accuracy.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to John Ford at telephone number 703-308-2636.



**John K. Ford**  
**Primary Examiner**